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(54) Title: ANTIVIRAL COMPOSITION COMPRISING A SULPHATED GLUCOSE POLYMER AND A BACTERIOSTATIC AGENT

(57) Abstract: There is described a pharmaceutical composition comprising a glucose polymer or a mixture of glucose polymers and, optionally, salts thereof and a non-sensitising bacteriostatic agent, such as sorbic acid. There is also described a method of treatment, alleviation or prevention of HIV- 1 or a related virus or other sexually transmitted diseases by the administration of a such a composition.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB2004/000239

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K31/715 A61K47/12 A61P31/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 394 333 B (BUKH MEDITEC) 31 October 1990 (1990-10-31)	1-6, 25-39, 55,56,58
A	page 3, line 14 - line 23 example 6 the whole document	7-24, 40-54, 57, 59-102
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

9 June 2004

Date of mailing of the international search report

14.02.2004

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/000239

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	STAFFORD M K ET AL: "A PLACEBO-CONTROLLED, DOUBLE-BLIND PROSPECTIVE STUDY IN HEALTHY FEMALE VOLUNTEERS OF DEXTRIN SULPHATE GEL" JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES AND HUMAN RETROVIROLOGY, LIPPINCOT-RAVEN, XX, vol. 14, no. 3, 1 March 1997 (1997-03-01), pages 213-218, XP001095808 ISSN: 1077-9450 cited in the application the whole document	1-8,12, 13, 67-102
Y	----- WO 92/04904 A (ML LAB PLC) 2 April 1992 (1992-04-02) cited in the application the whole document	1-102
Y	----- EP 0 240 098 A (UENO SEIYAKU OYO KENKYUJO KK) 7 October 1987 (1987-10-07) cited in the application formulations 1-3 page 3, line 1 - line 20 example 4	1-102
Y	----- MCCORMACK S ET AL: "MICROBICIDES IN HIV PREVENTION" BMJ. BRITISH MEDICAL JOURNAL, LONDON, GB, vol. 322, no. 7283, 17 February 2001 (2001-02-17), pages 410-413, XP001145843 ISSN: 0959-8146 cited in the application the whole document	1-102
Y	----- CHIRIFE J ET AL: "Effect of potassium sorbate and pH on the survival of Staphylococcus aureus in saturated sugar solutions." REVISTA ARGENTINA DE MICROBIOLOGIA. 1993 APR-JUN, vol. 25, no. 2, April 1993 (1993-04), pages 80-87, XP009031004 ISSN: 0325-7541 abstract the whole document	1-102
Y	----- US 2002/173485 A1 (BRAGUTI GIANLUCA ET AL) 21 November 2002 (2002-11-21) page 1, left-hand column, paragraph 2 - paragraph 6 example 1 claims 7,25 -----	1-102

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/000239

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 67-82 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/000239

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0394333	B	31-10-1990	DE 3853365 D1	20-04-1995
			DE 3853365 T2	27-07-1995
			DK 151590 A ,B,	14-08-1990
			EP 0394333 A1	31-10-1990
			JP 7039347 B	01-05-1995
			KR 9303117 B1	19-04-1993
			AT 119778 T	15-04-1995
			AT 197546 T	15-12-2000
			AU 2914589 A	19-07-1989
			AU 631529 B2	03-12-1992
			AU 2914689 A	19-07-1989
			DE 3856442 D1	21-12-2000
			DE 3856442 T2	10-05-2001
			DK 5792 A	17-01-1992
			DK 20394 A	18-02-1994
			DK 151690 A	15-08-1990
			WO 8905645 A1	29-06-1989
			WO 8905646 A1	29-06-1989
			EP 0420849 A1	10-04-1991
			EP 0640346 A1	01-03-1995
			HK 56396 A	03-04-1996
			JP 4500797 T	13-02-1992
			JP 4500798 T	13-02-1992
			US 5916880 A	29-06-1999
			US 5908836 A	01-06-1999
			AU 664419 B2	16-11-1995
			AU 3396093 A	06-05-1993
WO 9204904	A	02-04-1992	AT 165005 T	15-05-1998
			AU 649731 B2	02-06-1994
			AU 8614591 A	15-04-1992
			CA 2092094 A1	26-03-1992
			DE 69129272 D1	20-05-1998
			DE 69129272 T2	12-11-1998
			DK 550532 T3	08-03-1999
			EP 0550532 A1	14-07-1993
			ES 2113888 T3	16-05-1998
			WO 9204904 A1	02-04-1992
			IE 913340 A1	25-02-1992
			JP 3281373 B2	13-05-2002
			JP 6503305 T	14-04-1994
			NZ 239908 A	26-03-1993
			PT 99057 A ,B	31-08-1992
			US 5439892 A	08-08-1995
			US 6015799 A	18-01-2000
			ZA 9107597 A	27-05-1992
EP 0240098	A	07-10-1987	AU 597635 B2	07-06-1990
			AU 7107487 A	08-10-1987
			CA 1277239 C	04-12-1990
			EP 0240098 A2	07-10-1987
			JP 1648661 C	13-03-1992
			JP 2007577 B	19-02-1990
			JP 63045223 A	26-02-1988
			JP 1151521 A	14-06-1989
			OA 8581 A	30-09-1988
			PH 25964 A	13-01-1992
			US 4840941 A	20-06-1989

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/000239

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0240098	A		ZA 8702359 A ZM 3087 A1	27-04-1988 28-07-1989
US 2002173485	A1	21-11-2002	IT MI20001732 A1 AU 1211302 A BR 0112962 A CA 2424346 A1 CN 1474700 T WO 0209637 A2 EP 1313489 A2 HR 20030046 A2 JP 2004505028 T NO 20030411 A NZ 523832 A US 2002183278 A1	28-01-2002 13-02-2002 24-06-2003 07-02-2002 11-02-2004 07-02-2002 28-05-2003 30-04-2004 19-02-2004 27-01-2003 26-09-2003 05-12-2002